

SECAMnida®

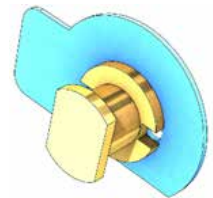
OPTIMIZED FIXATION AND PROCESS FOR SANDWICH PANELS



CONTEXT

SECAM, provider of fixing solutions, is partnering with GEBE2 to offer a fully automated fastening solutions dedicated to honeycomb sandwich panels.

Nowadays, the transportation industry is facing the lightening challenge which is being intensified by a context of reduction of the energy consumption. Thus, new materials have appeared, mainly in the field of composites. However, the assembly technologies of these materials, and in particular for composites called «sandwich panels» have not significantly evolved since their appearance in the 60s and 70s.



Fixing solutions using potted inserts are still widely used in sandwich panel structures. The actual installation process requires many manual operations as well as an immobilization of nearly 24 hours for curing time. When it comes to fastening solutions, sources of productivity growth are the subject of intense researches.

New assembly technologies can greatly help reduce production costs. This is why it is essential to rethink some manufacturing processes.

SECAMnida® fixing solution principles

1. A crimping process to maintain the insert on the upper skin
2. Injection of two-components potting compound
3. A visual inspection of the filling via the second vent hole. No additional finishing operations.

OBJECTIVES



Design

Simplified structures design
No extra reinforcement

Strong
Equivalent or higher mechanical strength in regards to standard



Light

Lighten metal inserts
Overall weight reduction

Fast
Installation is 4 time quicker and requires 50% less steps compared to conventional methods



Costs Killer

Decrease of production downtimes
Strong overall productivity gain

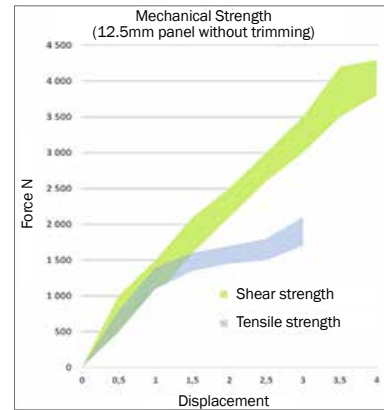
Simple
Immediate handling after crimping
No needs for finishing operations



MAIN CHARACTERISTICS

Objective: reduce the number of steps, the time and downtime required, to simplify the automation of insert installation

	Current situation by industries (Insert Potted)			SECAMnida®
	Aeronautics	Aerospace	Railway	
Number of steps	6-7 steps	7-8 steps	6-7 steps	3-4 steps
Time of installation	~ 2-3 min	~ 15-25 min	~ 2 min	30 sec to 1 min
Work-in-progress (immobilisation on production line)	High			Low - Immediate handling allowed
Automation	Hard			Yes
Finishing operations	Yes			No

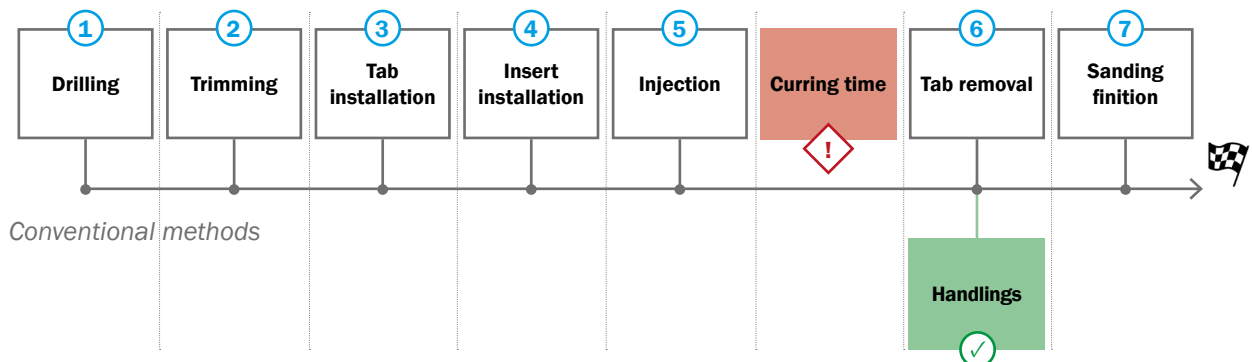


A DEDICATED FULLY AUTOMATED PROCESS

Current installation methods require the gripping of several mechanical, electrical or pneumatic tools.

Objective : Provide to the market a robotized process for the preparation and the installation of inserts using SECAMnida® solution.

Present-day : manual installation of inserts



Tomorrow : a fully automated process

